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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,731	07/22/2003	Shin-Ichi Towata	116033	6072

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EXAMINER

SAVAGE, JASON L

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,731

Applicant(s)

TOWATA ET AL.

Examiner

Jason L. Savage

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20030722.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Specification

The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

On page 1 paragraph [0001] of the specification Applicant states the disclosure of Japanese Application No. 2002-229674 is incorporated herein by reference in its entirety. This objection could also be overcome by removing the statement pertaining to incorporating the foreign patent by reference.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 5, 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by JP'576 (JP 2002-105576 English Machine Translation).

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JP'576 teaches a hydrogen absorbing body comprising a layer containing Mg which has noble metal materials laminated onto the Mg containing layer (CLAIMS: [Claims 1 and 5]; Figure 7). Such a laminate would have inherently exhibited different degrees of strain caused by absorption/desorption of hydrogen since they differ in material composition and thus would differ in physical properties.

Regarding the limitation in claim 2 that the difference in hydrogen absorption amount between the two materials is at least 0.5 % by mass, the Mg layer and Pd layers of JP'576 would have a difference in absorption within the claimed range. As evidence that such would be the case, Figure 1 in the instant Application shows the absorption of Pd as being 0.5 % by mass and that of substantially pure Mg being 7.4 % by mass.

Regarding claim 3, JP'576 is silent to the yield stress of the absorbing materials, however, the materials recited by JP'576 inherently have yield stresses greater than the amount claimed.

Regarding claim 8, JP'576 teaches that one of the absorbing materials may be an alloy such as an alloy of Mg and Ni or an alloy of Mg and a rare earth (DETAILED DESCRIPTION: [0015]). Employing such an alloy would have resulted in the formation of the plurality of phases on a nanometer scale.

Regarding claim 9, Figures 4 (a), (b) and (c) and Figure 7 of JP'576 appears to show the layer thicknesses of both sets of materials would be within the range claimed.

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Regarding claim 10, the Pd and Mg layers would meet the limitation of being a different type of hydrogen absorbing material wherein they are laminated so as to form two layers.

Regarding claim 11, as was set forth above, JP'576 teaches that an alloy of Magnesium may be used.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 6-7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'576 (JP 2002-105576 English Machine Translation).

JP'576 teaches what is set forth above. JP'576 further teaches that a magnesium alloy of Mg and Ni may be suitable for use as the hydrogen absorbing material (DETAILED DESCRIPTION: [0015]). However, JP'576 is silent as the alloy comprising 50-90 at% Mg. It would have been within the purview of one of ordinary skill in the art at the time of the invention to have recognized that a wide variety of alloying compositions of Mg and Ni could provide suitable properties for use as an absorbing material with a reasonable expectation of success. Absent a teaching of the criticality or

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showing of unexpected results, the claimed Mg content of between 50 to 90 at% would not provide a patentable distinction over the prior art.

Regarding claims 6 and 12, JP'576 teaches that other elements such as vanadium may suitably be employed in the absorbing body (DETAILED DESCRIPTION: [0019]). Although JP'576 is silent as to the amount of vanadium that may desirably be added, it would have been within the purview of one of ordinary skill in the art at the time of the invention to have recognized that a wide variety of alloying compositions of vanadium could provide suitable properties for use as an absorbing material with a reasonable expectation of success. Absent a teaching of the criticality or showing of unexpected results, the claimed V content of between 10 to 99 at% would not provide a patentable distinction over the prior art.

Regarding claim 7, JP'576 teaches the layer thicknesses are within the range claimed (Figure 4(a-c) and 7).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason Savage
6-24-05


JENNIFER MCNEIL
PRIMARY EXAMINER